Answer Key -- Agriculture

Chapter 4 · Geography

Reading Guide · Glossary · Comprehension · Practice Questions · 10 Puzzles

NCERT Companion Workbook · Based on “Contemporary India II, Geography, NCERT Class X”

Comprehension Questions -- Answered

Q1. How does primitive subsistence farming differ from intensive subsistence farming?

Answer: Primitive subsistence farming uses simple tools and shifting patches of land, relying entirely on monsoon rain and natural soil fertility with almost no modern inputs. Intensive subsistence farming instead uses heavy doses of fertiliser, irrigation and labour on small, fixed plots to squeeze out the highest possible output. Both aim mainly to feed the farming family, but intensive farming does so through much greater input and effort per unit of land.

Q2. What defines commercial farming, and how can the same crop be commercial in one region but subsistence in another?

Answer: Commercial farming relies on higher doses of modern inputs like high-yielding seeds, fertilisers and pesticides to raise output for sale rather than home consumption. Rice, for example, is grown commercially for market in Punjab and Haryana, but the same crop is grown mainly for subsistence in Odisha. The difference lies not in the crop itself but in local farming methods, market access and how much of the harvest is actually sold.

Q3. Explain the difference between the rabi and kharif cropping seasons with examples.

Answer: Rabi crops such as wheat, gram and mustard are sown in winter, from October to December, and harvested in summer between April and June, aided by winter precipitation from western temperate cyclones. Kharif crops such as paddy, cotton and maize are sown with the onset of the monsoon and harvested by autumn. The two seasons therefore rely on very different sources and timing of moisture.

Q4. What geographical conditions favour rice cultivation in India?

Answer: Rice needs high temperatures above 25 degrees Celsius, high humidity and substantial rainfall, ideally above 100 centimetres a year, which is why it grows widely in the plains, coastal areas and deltas of eastern and southern India. In drier regions such as Punjab and Haryana, dense canal and tubewell irrigation networks have made rice cultivation possible despite lower natural rainfall. This shows how irrigation can partly substitute for a crop's natural climate requirement.

Q5. Why are pulses usually grown in rotation with other crops?

Answer: Most pulse crops are leguminous, meaning they help restore nitrogen to the soil, unlike crops that mainly deplete soil nutrients. Growing them in rotation lets farmers recover some of the soil fertility used up by other crops without needing extra chemical fertiliser. Pulses also need relatively little moisture, so they suit dry-season rotation slots that other crops cannot use as easily.

Q6. What institutional reforms did the Indian government introduce after Independence to help farmers?

Answer: The government pursued land reform, consolidation of fragmented holdings, cooperative farming and the abolition of the zamindari system as priorities of the First Five Year Plan. Later, schemes like the Kisan Credit Card and crop insurance against drought, flood and fire aimed to protect farmers financially. Weather bulletins and minimum support prices were also introduced to reduce farmers' vulnerability to speculation and unpredictable conditions.

Q7. What was the Bhoodan-Gramdan movement and what did it try to achieve?

Answer: The movement began when a landowner voluntarily donated eighty acres for distribution among landless villagers after being inspired by Vinoba Bhave, who was spreading Gandhiji's message across the country. This act of Bhoodan, or land-gift, grew into Gramdan, where entire villages were sometimes donated to the landless. It aimed to redistribute land peacefully rather than through government seizure, which is why the chapter calls it a bloodless revolution.

Q8. Why is jute called the golden fibre, and where is it mainly grown?

Answer: Jute earns the name golden fibre partly from its natural colour and its economic value as a widely used industrial fibre crop. It grows best in well-drained, fertile soils that are renewed yearly by flooding, which is why West Bengal, Bihar, Assam and Odisha, all flood-plain regions, are its main growing areas. High temperature during its growing period is also essential for the crop.

Short-Answer Practice -- Model Answers

Q1. Which crop makes India the world's second largest producer after Brazil?

Answer: Sugarcane.

Reasoning: *The chapter states India ranks second in sugarcane output, a tropical and subtropical crop that needs hot, humid conditions found across several Indian states.*

Q2. Which season's crops depend on the arrival of the monsoon?

Answer: The kharif season.

Reasoning: *Kharif crops like paddy and cotton are sown once monsoon rains begin and are harvested by autumn, so their timing is tied directly to monsoon onset.*

Q3. What is jhumming called in Madhya Pradesh?

Answer: Bewar or Dahiya.

Reasoning: *Shifting cultivation carries different local names across regions, reflecting how widespread this primitive farming method once was across India.*

Q4. Who initiated the Bhoodan movement?

Answer: Vinoba Bhave.

Reasoning: *After a landless villager's appeal in Pochampally, a landowner voluntarily donated acres, and Bhave built on this single act to campaign for land redistribution nationwide.*

Q5. Why can rice be grown even in low-rainfall areas like Punjab?

Answer: Because of dense canal and tubewell irrigation networks.

Reasoning: *Artificial irrigation compensates for insufficient natural rainfall, letting farmers meet rice's otherwise high water requirement even in a drier climate.*

Objective Practice

A. Multiple Choice Questions

1. A system of agriculture where a single crop is grown on a large area describes:

a) Shifting agriculture

✓ **b) Plantation agriculture**

c) Horticulture

d) Intensive agriculture

2. Which of the following is a rabi crop?

a) Rice

✓ **b) Gram**

c) Millets

d) Cotton

3. Which of the following is a leguminous crop?

✓ **a) Pulses**

b) Jowar

c) Millets

d) Sesamum

4. Jhumming, a form of shifting cultivation, is practised mainly in which region?

a) Coastal Andhra Pradesh

✓ **b) North-eastern states**

c) Western Rajasthan

d) The Deccan plateau

5. India is the largest producer and consumer in the world of which crop group?

✓ **a) Pulses**

b) Cotton

c) Jute

d) Groundnut

6. The 'golden fibre' refers to which crop?

a) Cotton

✓ **b) Jute**

c) Silk

d) Hemp

7. Which crop requires over 200 cm of rainfall and an equatorial-type climate?

✓ **a) Rubber**

b) Cotton

c) Wheat

d) Bajra

8. Who is credited with starting the Bhoodan movement?

a) Mahatma Gandhi

b) Jawaharlal Nehru

✓ **c) Vinoba Bhave**

d) Ram Chandra Reddy

9. Land reform was the main focus of which Five Year Plan?

✓ **a) First**

b) Second

c) Third

d) Fifth

10. The millet ragi is especially rich in which nutrients?

✓ **a) Iron and calcium**

b) Vitamin C

c) Sodium

d) Protein alone

B. True or False

1. Kharif crops are sown with the onset of monsoon and harvested by autumn. -- TRUE
2. Rabi crops are sown in summer and harvested during the monsoon. -- FALSE
3. Plantation agriculture typically grows many different crops on a small plot. -- FALSE
4. India is the second largest producer of rice in the world after China. -- TRUE
5. Pulses generally need less moisture and can survive fairly dry conditions. -- TRUE
6. The Green Revolution benefited all regions of India equally. -- FALSE
7. Jute mills in India are concentrated mainly along the Hugli river in West Bengal. -- TRUE
8. Sericulture refers to the cultivation of cotton fibre. -- FALSE

C. Match the Following

Column A	Column B
1. Jhumming	a) Landlord revenue system abolished after Independence
2. Rabi	b) Crop season running roughly from October to June
3. Kharif	c) Crop season tied to the monsoon's arrival
4. Sericulture	d) Voluntary land-gift movement started by a landlord's donation
5. Bhoodan	e) Crop type that restores nitrogen to the soil
6. Zamindari	f) Cultivation of fruits and vegetables
7. Leguminous	g) Rearing silkworms for silk fibre
8. Horticulture	h) Shifting cultivation in north-eastern hill states

Answers: 1-h, 2-b, 3-c, 4-g, 5-d, 6-a, 7-e, 8-f

Higher-Order Thinking (HOTS) Questions -- Model Answers

Q1. The chapter notes that Green Revolution benefits concentrated in a few regions. What long-term regional inequalities might this create, and how might institutional reform address them?

Answer: Regions like Punjab and Haryana that received Green Revolution inputs first pulled ahead in productivity and farmer income, while regions left out fell relatively further behind despite similar farming effort. Over time this can widen the gap in rural prosperity between states and increase migration pressure from lagging to leading regions. Institutional reforms such as extending credit access, crop insurance and cooperative support to under-served regions could help spread the technology's benefits more evenly.

Q2. Rice is a commercial crop in Punjab but a subsistence crop in Odisha. What factors might explain this difference for the same crop?

Answer: Punjab combines assured irrigation, high-yielding seed varieties and strong market and transport links, which lets farmers there grow rice specifically for sale rather than just their own consumption. Odisha's rice farmers may face less irrigation infrastructure or weaker market connections, so more of their harvest stays within the household or local community rather than reaching a wider commercial market. The crop itself is identical; it is the surrounding farming system and market access that decide whether it becomes commercial or subsistence.

Q3. How does land fragmentation from inheritance conflict with the goal of raising farm productivity, and what reform tried to fix it?

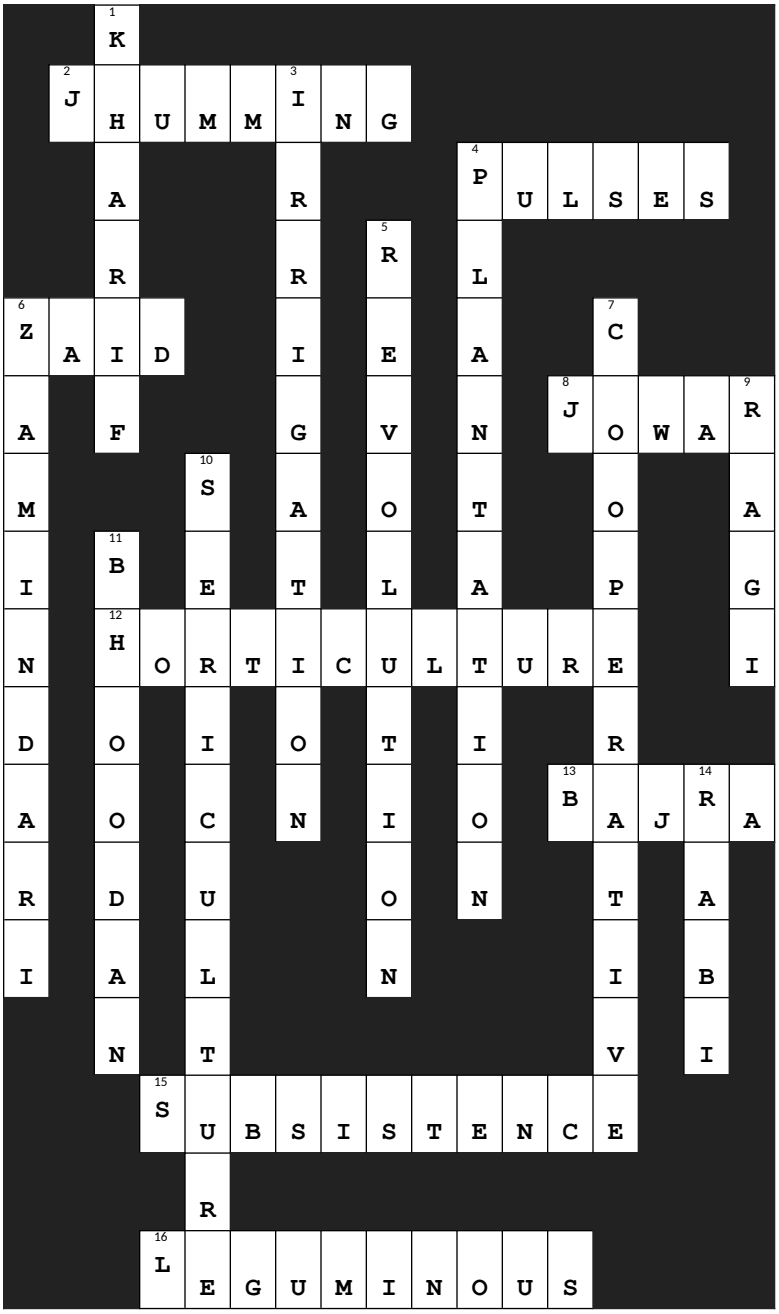
Answer: As land is repeatedly divided among heirs across generations, individual holdings shrink to a size too small to farm efficiently, even though the total farmed area may stay the same. This uneconomical fragmentation makes it harder to justify investment in machinery or large-scale irrigation on any single plot. Consolidation of holdings was introduced as an institutional reform specifically to merge these scattered small parcels back into more workable, contiguous farms.

Q4. Suggest why plantation agriculture is described as having 'an interface of agriculture and industry,' and what that implies for the farmers who work there.

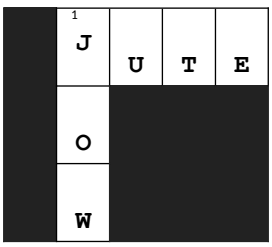
Answer: Plantation crops like tea and rubber are grown specifically as industrial raw material, and processing often happens right at the plantation site before the goods even leave for market, blending farming directly into an industrial supply chain. This means plantation labourers depend heavily on transport networks and processing facilities working smoothly, unlike subsistence farmers who mainly answer to household needs. It also ties plantation workers' livelihoods closely to distant market prices and industrial demand rather than local food security alone.

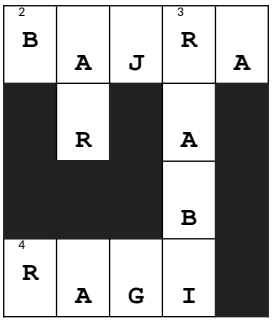
Puzzle Pack -- 10 Puzzles for This Chapter

1. Crossword



2. Mini Crossword





3. Word Search

N	O	I	T	U	L	O	V	E	R	C	R	R	K	W
N	P	L	A	N	T	A	T	I	O	N	Y	E	H	J
E	I	R	A	D	N	I	M	A	Z	U	J	R	A	N
H	E	V	I	T	A	R	E	P	O	O	C	U	R	O
G	O	S	M	E	E	C	R	A	W	O	J	T	I	I
Y	R	R	U	I	C	S	E	S	L	U	P	L	F	T
N	Q	O	T	O	L	N	Z	R	I	W	A	U	W	A
B	A	C	U	I	N	L	E	D	E	B	J	C	B	G
H	F	D	O	N	C	I	E	T	G	A	A	I	A	I
O	H	Y	M	T	D	U	M	T	S	C	L	R	J	R
O	F	N	X	A	T	N	L	U	O	I	C	E	R	R
D	D	I	A	Z	R	O	U	T	G	I	S	S	A	I
A	T	J	U	T	E	G	N	T	U	E	G	B	J	C
N	V	G	N	I	M	M	U	H	J	R	L	A	U	E
E	N	A	C	R	A	G	U	S	N	K	E	R	R	S

4. Cryptogram

Encoded: GYRGQB, GQCX RBN WYMQWA NYSCNY EKRZ CBNCRB MRWAYWG TWQE.

Plain: Season, soil and reform decide what Indian farmers grow.

Key: A=M B=N C=I D=U E=W F=V G=S H=B I=P J=Q K=H L=Z M=F N=D O=J P=X Q=O R=A S=C T=G U=Y V=K W=R X=L Y=E Z=T

5. Caesar Coded Message

Encoded: TZKBVNEMNKX. LXTLHG, LHBE TGW KXYHKF WXVBWX PATM BGWBTG YTKFXKL ZKHP.

Plain: Agriculture. Season, soil and reform decide what Indian farmers grow.

Shift: 19

6. Word Scramble

1. KHAFIR → KHARIF

2. NGRARTIIIO → IRRIGATION

3. TEJU → JUTE

4. IDZA → ZAID

5. ALECER → CEREAL

6. IUCTSRLEURE → SERICULTURE

7. RTNUNGDUO → GROUNDNUT

8. DNMAAZIRI → ZAMINDARI

9. HUGNMJIM → JHUMMING

10. MRDAGAN → GRAMDAN

7. Acrostic

H -- HORTICULTURE

A -- PLANTATION

R -- RABI

V -- COOPERATIVE

E -- SUBSISTENCE

S -- SUGARCANE

T -- MILLET

Theme: HARVEST

8. Match the Pairs

A → 3

B → 7

C → 8

D → 1

E → 5

F → 4

G → 2

H → 6

9. Fill in the Blanks

1. A single crop grown across a large estate for market sale defines _____ farming. → PLANTATION

2. The landlord-based revenue system abolished after Independence was called the _____ system. → ZAMINDARI

3. Shifting cultivation practised in Assam, Nagaland and Mizoram is locally called _____. → JHUMMING

4. Crops sown at the start of the monsoon and harvested in autumn belong to the _____ season. → KHARIF

5. Farming that mainly feeds the cultivator's own family is called _____ farming. → SUBSISTENCE

6. Crops like gram, moong and arhar that restore soil nitrogen are called _____ crops. → LEGUMINOUS

7. The short summer cropping season between rabi and kharif is called _____. → ZAID

8. Rearing silkworms to obtain silk fibre is known as _____. → SERICULTURE

10. Odd One Out

1. Sericulture -- a silk-rearing practice, not a cropping season

2. Jute -- a fibre crop, not a millet

3. Zamindari -- the landlord system that reforms tried to abolish

4. Groundnut -- grown mainly for oil, not processed as a textile fibre